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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,197	04/20/2004	Ying-Yao Lin	REAP0028USA4	3196
27765	7590	06/14/2005	EXAMINER	
NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)			NGUYEN, LINH V	
P.O. BOX 506			ART UNIT	PAPER NUMBER
MERRIFIELD, VA 22116			2819	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/709,197	LIN ET AL.	
	Examiner	Art Unit	
	Linh V. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 10 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/20/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to application 10/709,197 filed on 04/20/04.

Claims 1 – 15 are pending on this application.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Election/Restrictions***

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 - 9, drawn to variable gain amplifier with a voltage gain having exponential function and independent from Voltage temperature (Fig. 4).
- II. Claims 10 -15, drawn to Voltage temperature amplifier having voltage output depends upon voltage temperature of amplifier (Fig. 7).

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Margo on 6/8/05 a provisional election was made without traverse to prosecute the invention of Group I, claims 10 - 15.

Applicant in replying to this Office action must make affirmation of this election. Claims 1 – 9 is canceled.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 10, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Setty Pub. No.: US 2001/0006353

Regarding claim 10, Fig. 3 of Setty disclose a proportional to  $V_t$  voltage amplifier, comprising: a transconductance unit (Q0,Q1) for generating a first current (IQ1)) according to a first input voltage (X, Vb2); and a transresistance unit (Q3, Q4), coupled to a reference voltage (VREF), for generating a first output voltage (78) according to the first current (IQ1), wherein the difference between the first output voltage (78) and the reference voltage (VREF) is proportional to a thermal voltage (This is a inherent characteristic of voltage at the node 78, because the node 78 having a voltage proportional to thermal voltage  $kT/q$  [See paragraph 0038, 0039]; therefore the difference between voltage at the node 78 and Vref must be proportional the thermal voltage).

Regarding claim 12, Fig. 3 of Setty further discloses a first current mirror (Q6, Q5), coupled to the transconductance unit (Q0, Q1), for generating a second current (IQ3) according to the first current (IQ1).

Regarding claim 15, wherein the proportional\_to\_Vt voltage amplifier (Q0, Q1) is a half circuit of a differential proportional\_to\_Vt amplifier (Fig. 2)

### ***Allowable Subject Matter***

8. Claims 11, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 11, the prior art does not teach or suggest wherein the transconductance unit comprises: an operational amplifier having a first input end, a second input end, and an output end, wherein the first input end couples to the first input voltage, and a first resistor having one end being coupled to the second input end and the output end of the operational amplifier, and the other end being coupled to ground, wherein the first current flows through the first resistor.

With respect to claim 13, the prior art does not teach or suggest wherein the transresistance unit comprises: a first transistor for receiving the reference voltage; a second transistor having first end coupled to the first current mirror, wherein the second transistor is for generating the first output voltage; a second current mirror coupled to

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the first transistor and the second transistor; and a first bias current source coupled to the first transistor and the second transistor for providing a first bias current.

***Prior Art***

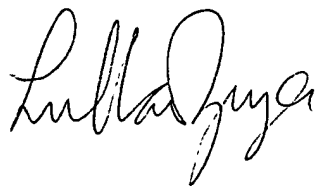
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (571) 272-1812. The fax phone numbers for the organization where this application or proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

6/7/05

Linh Van Nguyen



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